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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/010,653	11/08/2001	Theodore W. Houston	TI-23326	4840

23494 7590 02/25/2005

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EXAMINER

MANDALA, VICTOR A

ART UNIT	PAPER NUMBER
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2826

DATE MAILED: 02/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

CT

Office Action Summary	Application No. 10/010,653	Applicant(s) HOUSTON, THEODORE W.	
	Examiner Victor A. Mandala Jr.	Art Unit 2826	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. The Applicant argues that the claims 7-11 are enabled within the original disclosure. The examiner has considered the Applicant's arguments and finds them to be persuasive. The original disclosure does support claims 7-11 in Figure 3, but the claims are not supported by the election restriction requirement response filed on 5/27/03, where the applicant elected Species I Figures 1a-e. The examiner has considered that claims 7-11 were previously rejection on 6-18-03, thus the examiner will further examine these claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,043,535 Houston in view of U.S. Patent No. 6,759,315 Furukawa et al.

2. Referring to claim 7, an integrated circuit structure, comprising: a gate, (Houston Figure 6d #116), structure formed on a body of a semiconductor material, (Houston Figure 6d #124); an insulating layer, (Houston Figure 6d #134), formed opposite said gate, (Houston Figure 6d #116), structure beneath said semiconductor material, (Houston Figure 6d #124); a conducting region, (Figure 6d #126), within said insulating layer, (Houston Figure 6d #134), beneath said

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gate structure, (Houston Figure 6d #116), said conducting region, (Houston Figure 6d #126), having sublithographic width, (See ** below).

** Houston teaches all of the claimed matter in claim 7, but is silent on the matter of the back gate having a sub-lithographic dimension, but Furukawa et al. does. Furukawa et al. teaches a gate conductor that has a sub lithographic dimension in Col. 1 Lines 22-39. It would have been obvious to one having skill in the art at the time the invention was made to make the back gate have a sub lithographic dimension because modern day semiconductor design trends are to make the device smaller, which results in a lower threshold voltage, lower contact resistance, and faster switching speed, (Furukawa et al. Col. 1 Lines 22-39).

3. Referring to claim 8, an integrated circuit structure, wherein said conducting region, (Figure 6d #126), contacts said semiconductor material, (Houston Figure 6d #124).

4. Referring to claim 9, an integrated circuit structure, wherein said conducting region, (Houston Figure 6d #126), is formed in a trench, (Houston Figure 6d #126 & 136), with sidewalls, (Houston Figure 6d #136).

5. Referring to claim 10, an integrated circuit structure, wherein said semiconductor material is silicon, (Houston Col. 3 Line 67 and Col. 4 Line 1).

6. Referring to claim 11, an integrated circuit structure, wherein said conducting region, (Houston Figure 6d #126), is separated from said semiconductor material, (Houston Figure 6d #124), by a dielectric material, (Houston Figure 6d #132).

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor A. Mandala Jr. whose telephone number is (571) 272-1918. The examiner can normally be reached on Monday through Thursday from 8am till 6pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J. Flynn can be reached on (571) 272-1915. The examiner's organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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2/22/05

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